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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09/942,857	08/30/2001	Masanori Nonomura	F-7139	8545

7590 06/02/2004

Jordan and Hamburg
122 East 42nd Street
New York, NY 10168

EXAMINER	
FISCHER, JUSTIN R	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/942,857	NONOMURA ET AL	
	Examiner	Art Unit	
	Justin R Fischer	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) *2-4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 August 2001* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of a method of fabricating a multi-fiber polarization maintaining fiber assembly in the response dated March 11, 2004 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng (US 6,134,360) and further in view of Honjo (US 5,422,971), Steptoe (US 5,403,977), and either one of Nagase (JP 01232308) or Di Maggio (US 5,625,735). As best depicted in Figure 2b, Cheng discloses a method of forming a multi-fiber assembly comprising the steps of exposing the ends of a pair of fibers 2, inserting said fibers within a sleeve 1 or holding tube, affixing or bonding the optical fibers to said sleeve via an adhesive, and inserting the sleeve/fiber assembly into a ferrule (Column 1, Lines 45-52; Column 2, Lines 7-10; Column 4, Lines 40-45). It is initially noted that Cheng only broadly describes the method above and fails to include any of the particulars of how the sleeve is disposed within the ferrule and any additional processing steps that are consistent with common optical fiber assembly methods. While Cheng fails to suggest that adhesive is injected into the ferrule, it is extremely well known in the optical

connecting art to include such an adhesive material in the ferrule in order to firmly fix the optical fiber assembly and provide a desired arrangement. In particular, it is extremely well known to include a low viscosity, thermosetting resin, as shown for example by Honjo (Column 1, Lines 11-31). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to include a low viscosity, thermosetting resin in the ferrule. Regarding the adhesive used to arrange the fibers within the sleeve, Cheng suggests that it can be an epoxy, glue, resin, glass solder, metal solder, etc. (Column 3, Lines 30-35). While a high viscosity, thermosetting resin is not expressly suggested, one of ordinary skill in the art at the time of the invention would have found it obvious to use such a resin/adhesive since it represents a common resin used in similar applications, as shown for example by Steptoe (Column 1, Lines 9-20). It is particularly noted that Steptoe used a high viscosity resin in the sealing of cables to prevent water or other fluid from traveling inside the cable- this is similar to the adhesive/sleeve assembly of Cheng in which it is desired to eliminate scratches, cracks, and leaks. Absent any conclusive showing of unexpected results, the particular selection of a high viscosity, thermosetting resin in the sleeve of Cheng would have been obvious to one of ordinary skill in the art at the time of the invention. Lastly, regarding the orientation adjustment step, it is extremely well known in the optical fiber industry to adjust or orient the fibers by fixing the ferrule device (via a clamp) and rotating the fibers to achieve an optimum and accurate transfer of light between optical devices or adjacent fibers, as shown for example by either one of Nagase (Abstract) or Di Maggio (Column 1, Lines 10-30 and Column 3, Lines 1-13). Thus, one of ordinary skill in the art at the time of the

invention would have found it obvious to include an orientation step in the method of Cheng in or5der to obtain the benefits detailed above.

It is emphasized that Cheng is extremely similar to the method of the claimed invention in which a sleeve is disposed around a mutli-fiber assembly in order to provide support to the fibers and align the fibers (suggested by claimed invention). The claimed particulars of inserting the fiber/sleeve assembly in to the ferrule and further processing the optical connection all define well known techniques that are consistent with the manufacture of a plurality of multi-fiber assemblies and would have been well within the purview of one of ordinary skill in the art at the time of the invention.

Additionally, regarding the exposed ends of the fibers, Cheng does suggest that it is desired to provide support for the fiber ends to be joined or coupled (Column 1, Lines 44-45). As is well known in the optical industry, the coatings on the fiber ends are removed to expose the fiber ends prior to placement with the ferrule. Also, the amount of coating removed in each fiber would be dependent on the arrangement of the device (and fibers there within) to which the sleeve/fiber assembly is being coupled. One of ordinary skill in the art at the time of the invention would have readily appreciated a different amount of exposure in the respective fibers absent any conclusive showing of unexpected results.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Justin Fischer

May 25, 2004

JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300